

Evaluation of Risks to Federal Facility Superfund Site Remedies from Sea-Level Rise or Increased Storm Surge

June 30, 2025 | Report No. 25-N-0040



Abbreviations

EPA U.S. Environmental Protection Agency
OIG Office of Inspector General

Cover Image

Downed warning sign located on a federal facility Superfund site. (EPA image)

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OFFICE OF INSPECTOR GENERAL
U.S. ENVIRONMENTAL PROTECTION AGENCY

June 30, 2025

MEMORANDUM

SUBJECT: Evaluation of Risks to Federal Facility Superfund Site Remedies from Sea-Level Rise or Increased Storm Surge
Report No. 25-N-0040

FROM: Nicole N. Murley, Acting Inspector General *Nicole N. Murley*

TO: Nena Shaw, Acting Deputy Assistant Administrator
Office of Land and Emergency Management

This is our report on the subject evaluation conducted by the U.S. Environmental Protection Agency Office of Inspector General. The project number for this evaluation was OSRE-FY24-0114. This report contains findings that describe the problems the OIG has identified. Final determinations on matters in this report will be made by EPA managers in accordance with established audit resolution procedures.

You are not required to respond to this report because it contains no recommendations. If you submit a response, however, it will be posted on the OIG's website, along with our memorandum commenting on your response. Your response should be provided as an Adobe PDF file that complies with the requirements of section 508 of the Rehabilitation Act of 1973, as amended. The final response should not contain data that you do not want to be released to the public; if your response contains such data, you should identify the data for redaction or removal along with corresponding justification.

We will post this report to our website at www.epaoig.gov.



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Background, Scope, & Methodology

The U.S. Environmental Protection Agency Office of Inspector General initiated an evaluation of the risks to federal facility Superfund site remedies from sea-level rise or increased storm surge. The Comprehensive Environmental Response, Compensation, and Liability Act, which is commonly called Superfund, authorizes the EPA to clean up contaminated sites to protect human health and the environment. The sites that the EPA identifies for cleanup under this program are referred to as Superfund sites. The Superfund sites that have been prioritized for cleanup are included on the EPA's [National Priorities List](#).

A Superfund site can be either a federal facility site that is owned or operated by the federal government or a nonfederal facility site. As of March 2025, there were 157 federal facility Superfund sites on the National Priorities List. Federal facility sites individually average more than 6,000 acres. According to the EPA, about three million people live within one mile of a federal facility Superfund site, while about 13 million people live within three miles of one.

According to the National Oceanic and Atmospheric Administration, sea-level rise is a concern in the United States and across the world. Since 1880, the global sea level has risen an average of 8 to 9 inches. The global sea-level rise rate is accelerating, growing from 0.06 inches per year for most of the twentieth century to 0.14 inches per year from 2006 through 2015. In 2022, the global sea-level average reached a record high of 4 inches above the 1993 level. Sea levels along the contiguous United States are projected to rise 10 to 12 inches by 2050. Rising sea levels have increased flooding events and storm surges.

We conducted our work for this report from August 2024 through April 2025. We followed the OIG's quality control procedures for ensuring that the information in this report is accurate and supported. We shared our site-determination methodology with staff from the EPA Office of Land and Emergency Management. To determine which federal facility Superfund sites on the National Priorities List may be threatened by sea-level rise or increased storm surge, we mapped site locations using data from the "2022 National Oceanic and Atmospheric Administration 1-Foot Sea-Level Rise Projections" and the National Weather Service's National Hurricane Center's "Sea, Lake, and Overland Surges from Hurricanes" model. We present four of the resulting maps on the following pages.

Findings

Through mapping, we determined that 49 of the 157 federal facility Superfund sites on the National Priorities List are potentially at risk from sea-level rise or increased storm surge, as shown in Figure 1. Sea-level rise and increased storm surge at federal facility Superfund sites are of concern to the EPA because of the federal government's role in overseeing cleanup at these sites and also because many of these sites are located near population centers and important ecological areas, as shown in Figures 2, 3, and 4.

Federal facility Superfund sites may be at risk if the cleanup remedies that have been implemented at those sites to keep people and the environment safe are susceptible to sea-level rise or increased storm surge. In addition, sea-level rise or increased storm surge could critically impair ongoing cleanup efforts at federal facility Superfund sites. If cleanup remedies fail or are otherwise impaired, that may result in the spread of contaminants and increase the risk of human and environmental exposure to these contaminants. If contaminants from federal facility Superfund sites are released into the surrounding communities, the health, jobs, and environment of millions of U.S. residents may be threatened. Further, the federal funds expended to implement those remedies would have been wasted.

Conclusion

We issued this report, without recommendations, to highlight the potential threat that sea-level rise or increased storm surge could pose to federal facility Superfund sites and the surrounding communities. The EPA did not provide a formal response to our draft report but did provide technical comments, which we incorporated into this report as appropriate.

Figure 1: Federal facility Superfund sites potentially at risk from sea-level rise or increased storm surge



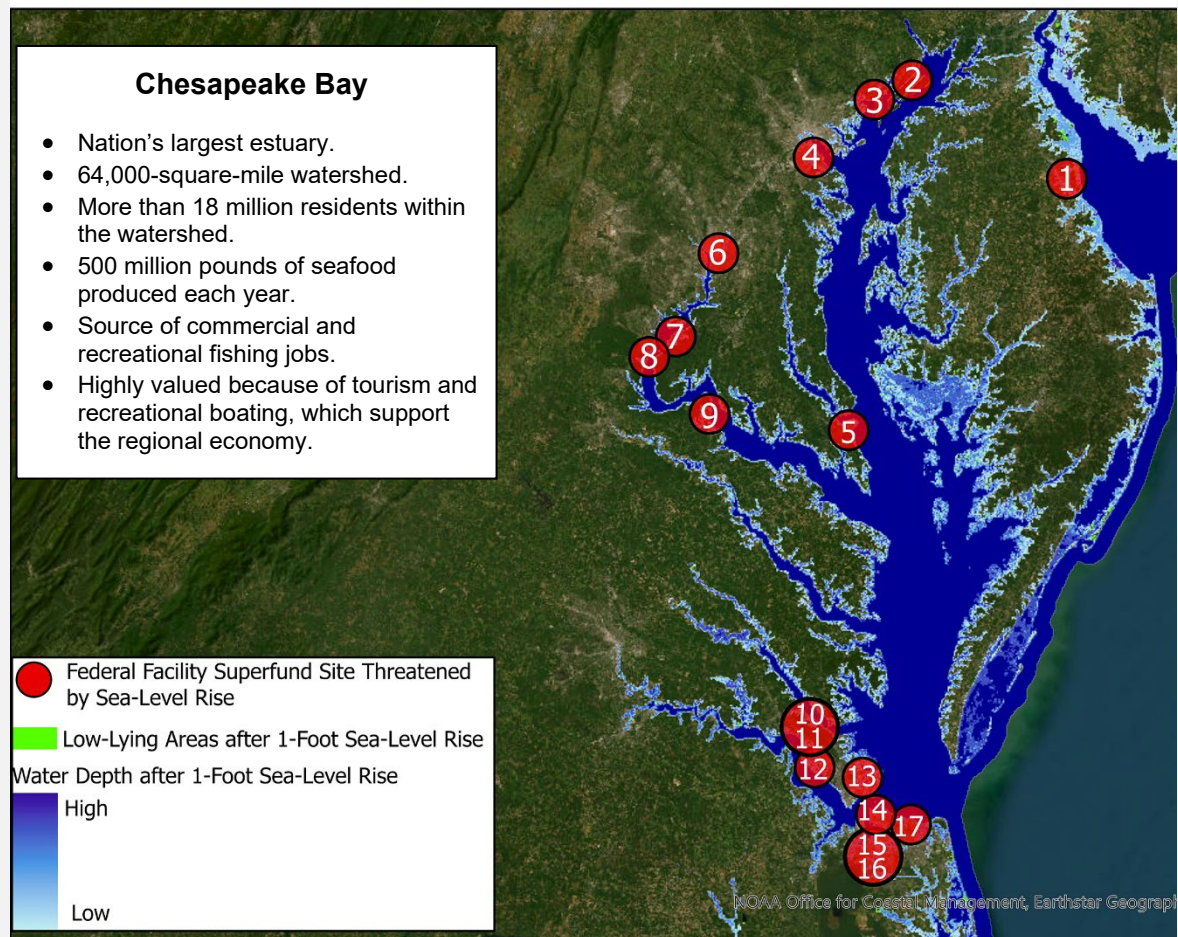
Notes: Other U.S. territories not identified on this map do not have federal facility Superfund sites on the National Priorities List. The two red dots representing the Norfolk Naval Shipyard and the St. Juliens Creek Annex in Virginia overlap; see Figure 2. The list below is alphabetized by state and then site name.

Source: Data from the EPA, the National Oceanic and Atmospheric Administration, and the National Weather Service. (EPA OIG image)

- | | |
|---|--|
| 1. Adak Naval Air Station, AK | 26. Camp Lejeune Military Reservation, NC |
| 2. Elmendorf Air Force Base, AK | 27. Cherry Point Marine Corps Air Station, NC |
| 3. Fort Richardson, AK | 28. Pease Air Force Base, NH |
| 4. Alameda Naval Air Station, CA | 29. Federal Aviation Administration Technical Center, NJ |
| 5. Camp Pendleton Marine Corps Base, CA | 30. Naval Weapons Station Earle, NJ |
| 6. Concord Naval Weapons Station, CA | 31. Atlantic Fleet Weapons Training Area, PR |
| 7. Fort Ord, CA | 32. Davisville Naval Construction Battalion Center, RI |
| 8. Hunters Point Naval Shipyard, CA | 33. Newport Naval Education and Training Center, RI |
| 9. Moffett Field Naval Air Station, CA | 34. Parris Island Marine Corps Recruit Depot, SC |
| 10. New London Submarine Base, CT | 35. Fort Eustis, VA |
| 11. Washington Navy Yard, D.C. | 36. Langley Air Force Base/NASA Langley Research Center, VA* |
| 12. Dover Air Force Base, DE | 37. Marine Corps Combat Development Command, VA |
| 13. Homestead Air Force Base, FL | 38. Naval Amphibious Base Little Creek, VA |
| 14. Jacksonville Naval Air Station, FL | 39. Naval Surface Warfare Center – Dahlgren, VA |
| 15. Pensacola Naval Air Station, FL | 40. Naval Weapons Station – Yorktown, VA |
| 16. Tyndall Air Force Base, FL | 41. Naval Weapons Station Yorktown – Cheatham Annex, VA |
| 17. Andersen Air Force Base, GU | 42. Norfolk Naval Base, VA |
| 18. Naval Computer and Telecommunications Area Master Station Eastern Pacific, HI | 43. Norfolk Naval Shipyard, VA |
| 19. Pearl Harbor Naval Complex, HI | 44. St. Juliens Creek Annex, VA |
| 20. Aberdeen Proving Ground (Edgewood Area), MD | 45. Bangor Naval Submarine Base, WA |
| 21. Aberdeen Proving Ground (Michaelsville Landfill), MD | 46. Naval Air Station Whidbey Island, WA |
| 22. Curtis Bay Coast Guard Yard, MD | 47. Naval Undersea Warfare Engineering Station, WA |
| 23. Indian Head Naval Surface Warfare Center, MD | 48. Old Navy Dump/Manchester Laboratory, WA |
| 24. Patuxent River Naval Air Station, MD | 49. Puget Sound Naval Shipyard Complex, WA |
| 25. Brunswick Naval Air Station, ME | |

* NASA = U.S. National Aeronautics and Space Administration.

Figure 2: Federal facility Superfund sites potentially at risk from sea-level rise or increased storm surge in the Chesapeake Bay region

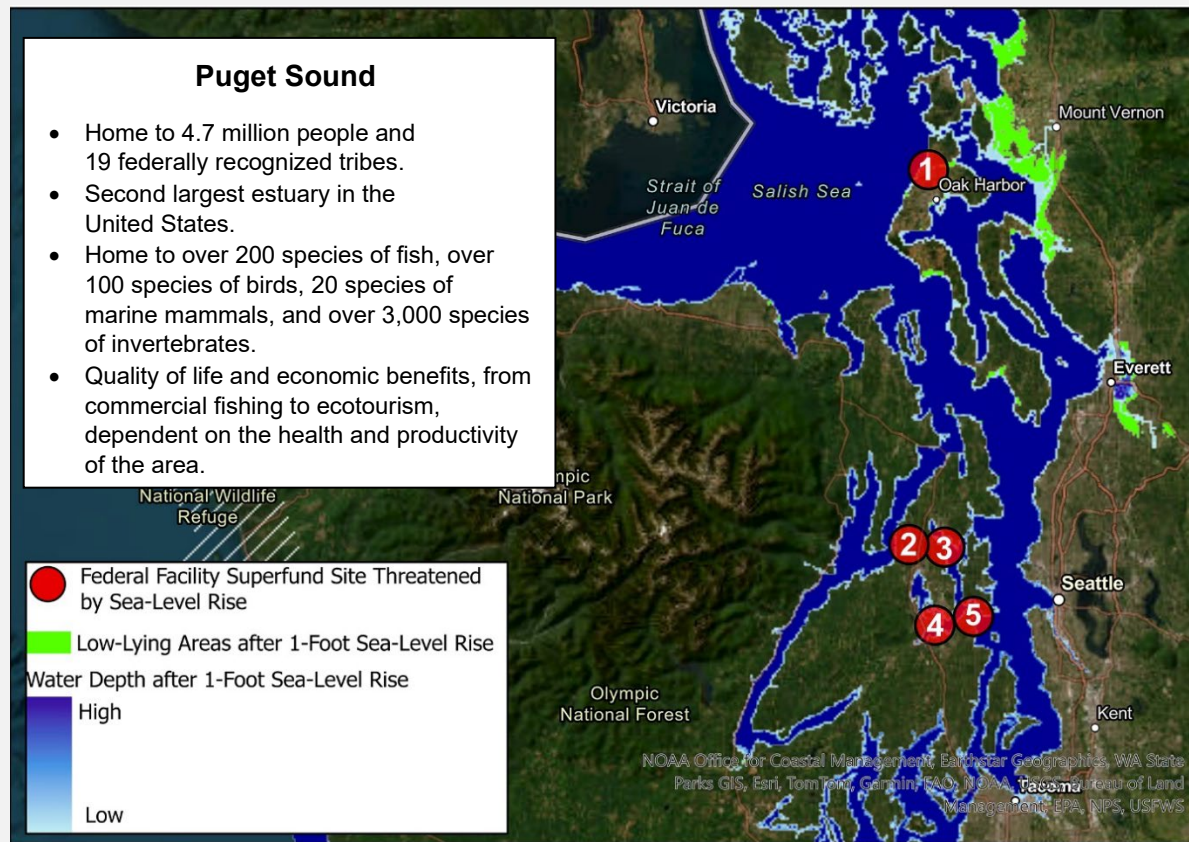


Source: Data from the EPA and the National Oceanic and Atmospheric Administration. (EPA OIG image)

- | | |
|---|--|
| 1. Dover Air Force Base, DE | 10. Naval Weapons Station Yorktown – Cheatham Annex, VA |
| 2. Aberdeen Proving Ground (Michaelsville Landfill), MD | 11. Naval Weapons Station – Yorktown, VA |
| 3. Aberdeen Proving Ground (Edgewood Area), MD | 12. Fort Eustis, VA |
| 4. Curtis Bay Coast Guard, MD | 13. Langley Air Force Base/NASA Langley Research Center, VA* |
| 5. Patuxent River Naval Air Station, MD | 14. Norfolk Naval Base, VA |
| 6. Washington Navy Yard, D.C. | 15. St. Julien's Creek Annex, VA |
| 7. Indian Head Naval Surface Warfare Center, MD | 16. Norfolk Naval Shipyard, VA |
| 8. Marine Corps Combat Development Command, VA | 17. Naval Amphibious Base Little Creek, VA |
| 9. Naval Surface Warfare Center – Dahlgren, VA | |

* NASA = U.S. National Aeronautics and Space Administration.

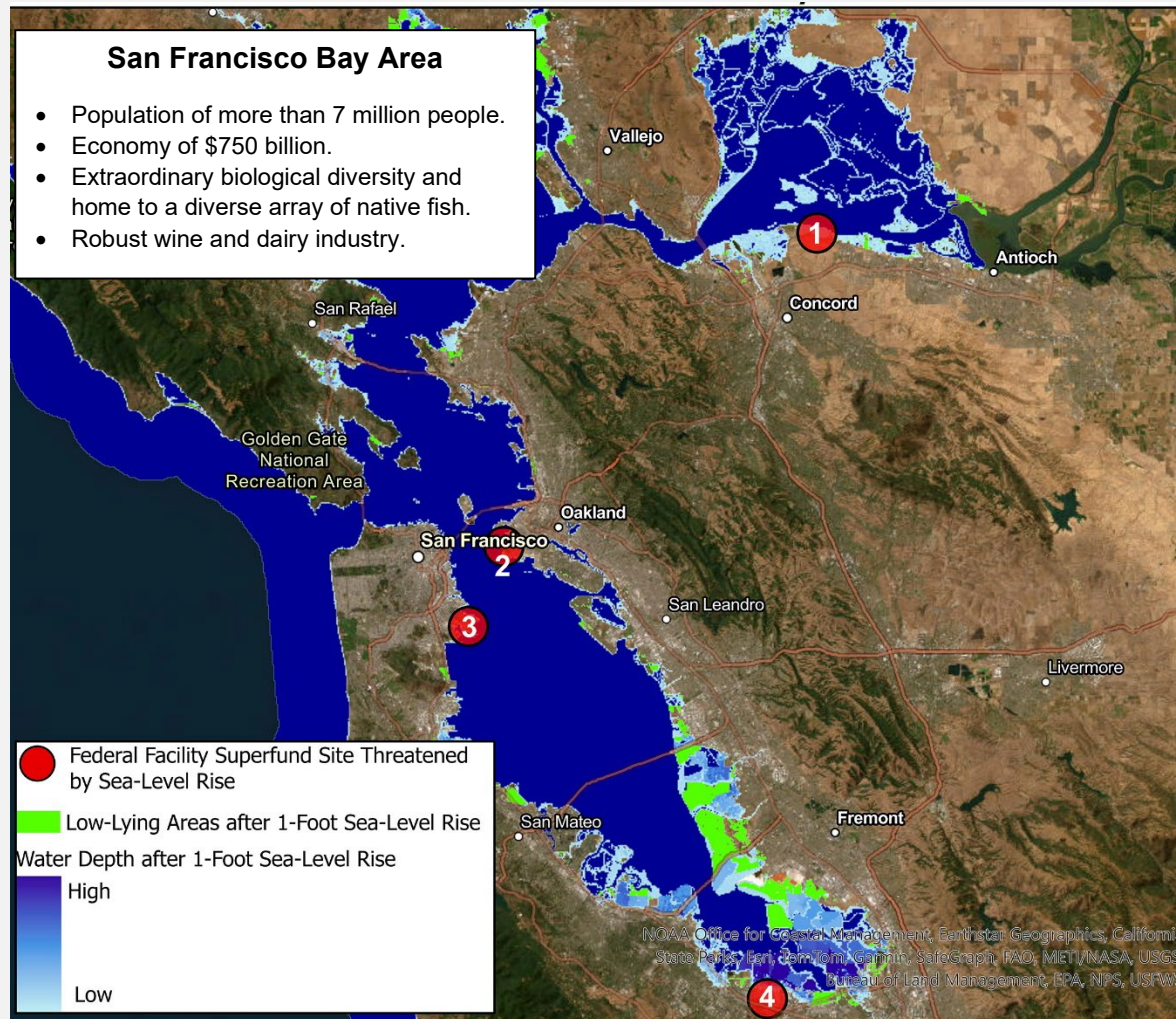
Figure 3: Federal facility Superfund sites potentially at risk from sea-level rise or increased storm surge in the Puget Sound area



Source: Data from the EPA, the National Oceanic and Atmospheric Administration, and the U.S. Geological Survey. (EPA OIG image)

- | | |
|---|--|
| 1. Naval Air Station Whidbey Island, WA | 4. Puget Sound Naval Shipyard Complex, WA |
| 2. Bangor Naval Submarine Base, WA | 5. Old Navy Dump/Manchester Laboratory, WA |
| 3. Naval Undersea Warfare Engineering Station, WA | |

Figure 4: Federal facility Superfund sites potentially at risk from sea-level rise or increased storm surge in the San Francisco Bay area



Source: Data from the EPA, the National Oceanic and Atmospheric Administration, the State of California Natural Resources Agency and Energy Commission, and the California Governor's Office of Land Use and Climate Innovation. (EPA OIG image)

1. Concord Naval Weapons Station, CA
2. Alameda Naval Air Station, CA

3. Hunters Point Naval Shipyard, CA
4. Moffett Field Naval Air Station, CA

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